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EXAMINER

FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 11/04/2003

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 17

Application Number: 09/899,502  
Filing Date: July 06, 2001  
Appellant(s): REIMELT ET AL.

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Felix D' Ambrosio  
For Appellant

EXAMINER'S ANSWER

MAILED

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GROUP 2800

This is in response to the appeal brief filed 18 August 2003.

Art Unit: 2856

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 13-31 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 2856

*(9) Prior Art of Record*

6,229,476	Lütke et al.	05-2001
4,976,509	Bachmann et al.	12-1990
4,171,609	Feese	10-1979

*(10) Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al. (U.S. Patent Number 6,229,476) and further in view of Feese (U.S. Patent Number 4,171,609).

Lütke et al. (hereinafter referred to as Lütke) discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining filling level or the position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a wire cable having a plurality of individual wires of a predetermined diameter twisted together.

Art Unit: 2856

Feese, however discloses a method and apparatus for manufacturing cables and lines with SZ-twisted elements. Column 1 lines 28-42 disclose a method of producing high strength waveguides utilizing a method of twisting high tensile strength wires together.

The utilization of many ultrasonic transmission lines are well known in the art in reference to liquid level measurement. There are many types of transmission lines, such as waveguides, that may be used, which are well known. There are also many types of waveguides used that are well known to one of ordinary skill in the art. The motivation to combine Lütke with Feese is in order to obtain an advantageous high strength conductor for use with the Lütke device utilizing a conductor made from a waveguide produced by the SZ-twisted elements disclosed in Feese.

In reference to claim 14, column 6 lines 11 through 57 explain the basic operation of the receiving/evaluating unit.

In reference to claims 15 and 18, the applicant states on page 5 of the specification that 19 wires arranged in three layers is but one example of the waveguide, and therefore, this is a design choice of the applicant and not a limitation essential to the operation of the device.

In reference to claim 16, 19, and 20 specifically, column 2 lines 11-24 of Feese disclose that the wires twisted together have short reversal points of the twist direction.

In reference to claim 17, Feese discloses a waveguide as described in this claim.

Claims 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al., and further in view of Bachmann et al. (U.S. Patent Number 4,976,509). Lütke, as discussed earlier, discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining

Art Unit: 2856

filling level or the position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a plurality of pieces, which are connected to one another via at least one flexible intermediate piece.

Bachmann et al. (hereafter referred to as Bachmann) discloses a flexible electrical control cable. The cable has a plurality of pieces (3), which are connected to one another via at least one flexible intermediate piece (2) comprising a wire cable. The pieces are tubes or rods. The waveguide (6) is covered in a mesh (10). The specifics to the majority of the claims are disclosed in column 2 lines 10-31. The motivation to combine Bachmann with Lütke is to obtain a high strength conductor cable.

In reference specifically to claims 30 and 31, page 8 of the specification describes how the transition of the piece and intermediate piece would be used as a defect to mark a reference point, and the cable described in Bachmann would be able to perform the same function.

**(11) Response to Argument**

In regard to the rejection of claims 13-20 the applicant argues in argument (1) that the examiner assumes that the wires claimed are nothing more than the "SZ-twisted wire" of Feese, and further states that the wire is twisted, as shown in figure 2, not about its own axis, but about the axis of the cable. The examiner would like to point out that he has assumed nothing, and the Feese reference meets the limitations of the claimed wire configuration and therefore satisfies the limitations as stated in the claims. In this case, independent claim 13 states "a waveguide which comprises a wire cable having a plurality of individual wires of a predetermined diameter which are twisted together;...", which is what the Feese reference discloses.

Art Unit: 2856

The applicant goes on to further argue that if the examiner is applying the Feese reference because it teaches “the limitations of the claimed wire configuration”, then Feese must teach the “twisted together” feature. This argument is confusing and contradictory. The examiner feels the Feese reference teaches wires “twisted together” as evidenced from the title of the reference: METHOD AND APPARATUS FOR MANUFACTURING CABLES AND LINES WITH SZ-TWISTED ELEMENTS. It is unclear what argument the applicant is making here. Further, as stated earlier, the applicant appears to admit that Feese teaches the use of a twisted wire, but the examiner feels the applicant was trying to say that the twisting disclosed in Feese is different to the twisting that the applicant is trying to claim. The examiner admits that the two types of “twisted wire” may be different. However, there does not appear to be anything in the claim language that would indicate that there is a difference, so the examiner based his rejection on the contents of the claim language.

The applicant further argues on page 5 that : “In fact, the reference to “together” in claim 13 does precisely that, i.e., makes it clear that the twisting is about the cable axis. The term “together” would have [sic] no meaning if twisting about its own axis were intended.” The examiner is confused by this argument. The examiner takes the position that twisted “together” means that the wires are twisted together, in a conventional fashion. How else is the examiner supposed to read into the term “together”. As the examiner argued, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the wire twisted about the axis of the cable and not its own axis) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner is unsure how the mere

Art Unit: 2856

use of the term "together" gives meaning to, or is supposed to be interpreted as, the wire twisted about the axis of the cable and not its own axis. This is not the known or standard meaning of the term "together", and if this is what the applicant wanted to convey, then it is the opinion of the examiner that this specific limitation should have been included in the claim language.

The applicant also argues on page 5 that: "Feese does not disclose a waveguide wire "as stated by the applicant". The twisting is different and the difference is substantial. What is the substantial difference? There is no argument presented as to the "substantial" difference between the wire disclosed in Feese and the wire in the present application. Also, the examiner notes in this case, the Feese reference states clearly in column 4 lines 13-20 a process where four conductors containing flexible stranded wire are processed into an electrical cable. This would indicate a conductive wire that is made by twisting. As indicated in the new figure 2 submitted by the applicant, the wires are twisted in opposite directions, as also indicated in column 4 line 19 of Feese. This would indicate that a waveguide, such as disclosed in the present application, could be manufactured by one of ordinary skill in the art in view of the disclosure of Feese.

In regard to the rejection of claims 21-31 the applicant argues in argument (2) that there is no teaching of a flexible intermediate piece of a flexible intermediate piece surrounded by a metal mesh, and that there is no resemblance to a waveguide in Backmann [sic] et al. The examiner disagrees. The Bachmann et al. reference discloses in column 2 lines 10-31 a cable with a central support member (2). Since the cable, as evidenced by claim 1, is a flexible cable, then the central support member is also flexible, thus a flexible intermediate piece. The cable is disclosed to be surrounded by a braided core covering (10), thus a metal mesh surrounds the flexible intermediate piece. Further, the device is disclosed to be used to transmit signals of large bandwidth, such as video signals. Transmitting a signal would constitute a waveguide. The examiner admits that the



Art Unit: 2856

cable disclosed by Bachmann et al is a more complicated cable than would be needed. The fact that the Bachmann cable is more complicated does not mean that it cannot perform a more "simple" function. Furthermore, if a bundle of multiple cables and their manufacture are disclosed, then one of ordinary skill would be able to construct a portion of the cable and use it as needed. In this case, the conductor bundle (3) alone could serve as the waveguide of the claimed invention as it is disclosed to have a flexible central support member, and comprises a plurality of twisted wires (7), and, as well established in the cable arts, a shielding of a braided metal mesh is usually applied before the protective outer sheathing is applied to cover the finished product. For at least the reasons stated above, the examiner feels the rejections and arguments presented are valid and the examiner has maintained those rejections.

Respectfully submitted,

RTF

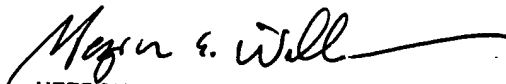
November 3, 2003

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